

Please return all attachments with search results. Thanks

Access DB#

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: MOLLY CEPERLEY Examiner #: 59757 Date: 02/11/03  
Art Unit: 1641 Phone Number 301-842-39 Serial Number  
Mail Box and Bldg/Room Location: 8D15 Results Format Preferred 09/082,265 AIL  
→ 7E12

### If more than one se

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Please provide a detailed  
Include the elected speci  
utility of the invention.  
known. Please attach a c

### of need.

\*\*\*\*\*

: the subject matter to be searched.  
rs, and combine with the concept or  
relevant citations, authors, etc, if

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): Bo Qui, Stanley Stein, Guobao Zhang, Leonard Sigal,  
Michael Brunner, Michael Katz

Earliest Priority Filing Date: 10/24/00

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

The claims are of almost no help in searching (see attachment).

The invention is the use of a polyethyleneglycol to link two immunologically active molecules (epitope, hapten, antigen, antibody).

The preferred linker is an  $\alpha, \omega$ -diamino PEG ( $\text{NH}_2\text{-PEG-NH}_2$ ) connected to aspartic acid to form a copolymer (see Figs. 1+2). I'm not sure how the PEG links to the  $\text{NH}_2$  exactly. For preparation methods see p.15-17 attached.

PEGs are known linkers (see Zalipsky attached). Probably try to direct the search to the combination of PEG (diamino) and aspartic acid. I would also be interested in anything you could come up with which additionally refers to vinyl sulfone (VS) or diving sulfone (DVS). See the last structure of Fig.2.

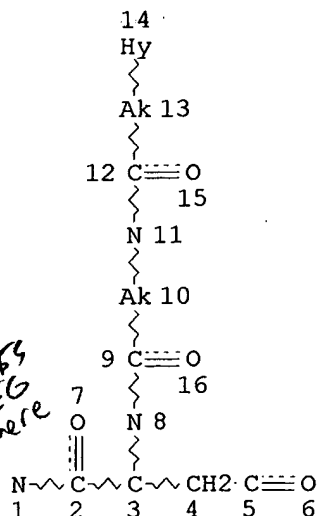
Please search for the above in combination with Borellia burgdorferii peptides (active agent causing Lyme disease).

=> d que 159  
L56

STR

Considered.  
03/06/03 MFC

No results  
with PEG  
attached here



## NODE ATTRIBUTES:

CONNECT IS E2 RC AT 10  
CONNECT IS E2 RC AT 13  
DEFAULT MLEVEL IS ATOM  
GGCAT IS PCY AT 14  
DEFAULT ECLEVEL IS LIMITED  
ECOUNT IS E5 C E2 N E1 S AT 14

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L58 18 SEA FILE=REGISTRY SSS FUL L56  
L59 16 SEA FILE=HCAPLUS ABB=ON PLU=ON L58

=> d ibib abs hitstr 159 1-16

L59 ANSWER 1 OF 16 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:303461 HCAPLUS

DOCUMENT NUMBER: 137:90412

TITLE: Development of a homogeneous, fluorescence resonance energy transfer-based in vitro recruitment assay for peroxisome proliferator-activated receptor .delta. via selection of active LXXLL coactivator peptides

AUTHOR(S): Drake, Katherine A.; Zhang, Ji-Hu; Harrison, Richard K.; McGeehan, Gerald M.

CORPORATE SOURCE: Experimental Station, Dupont Pharmaceutical Research Laboratories, Leads Discovery, Wilmington, DE, 19880, USA

SOURCE: Analytical Biochemistry (2002), 304(1), 63-69  
CODEN: ANBCA2; ISSN: 0003-2697

PUBLISHER: Elsevier Science

L28 5424 SEA FILE=REGISTRY SSS FUL L26  
L29 STR

CH^CH^SO2  
1 2 3

← this should cover all vinyl sulfones.

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L31 183103 SEA FILE=REGISTRY SSS FUL L29  
L32 30 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND (L28 OR L31)  
L33 9707 SEA FILE=HCAPLUS ABB=ON PLU=ON EPITOPES/CT  
L34 4069 SEA FILE=HCAPLUS ABB=ON PLU=ON HAPTENS/CT  
L35 197497 SEA FILE=HCAPLUS ABB=ON PLU=ON ANTIGENS+NT/CT  
L36 215197 SEA FILE=HCAPLUS ABB=ON PLU=ON ANTIBODIES+NT/CT  
L37 6 SEA FILE=HCAPLUS ABB=ON PLU=ON L32 AND (L33 OR L34 OR L35 OR L36)

=> d ibib abs hitstr 1-6

L37 ANSWER 1 OF 6 HCAPLUS COPYRIGHT 2003 ACS  
ACCESSION NUMBER: 2002:595415 HCAPLUS  
DOCUMENT NUMBER: 137:137266  
TITLE: Immunological test kit with Borrelia burgdorferi epitope  
INVENTOR(S): Qiu, Bo; Stein, Stanley; Zhang, Guobao; Sigal, Leonard; Brunner, Michael; Katz, Michael  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 14 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002106706	A1	20020808	US 2001-982264	20011017
US 2002197271	A1	20021226	US 2001-982259	20011017

PRIORITY APPLN. INFO.: 60 US 2000-242819P P 20001024

AB Borrelia burgdorferi peptide epitopes are conjugated to PEG copolymer and biotin. These peptide conjugates are then used in test kits, such as ELISA, for detection of anti-Borrelia antibodies in human serum and hence diagnosis of Lyme disease.

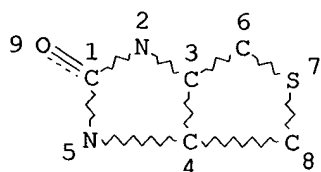
IT 58-85-5DP, Biotin, epitope conjugates 25322-68-3DP, PEG, peptide derivs.

RL: ARU (Analytical role, unclassified); DGN (Diagnostic use); SPN (Synthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)

(immunol. test kit with Borrelia burgdorferi epitopes conjugates to PEG

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L9 31215 SEA FILE=REGISTRY ABB=ON PLU=ON 107-21-1/CRN  
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L19 2 SEA FILE=REGISTRY ABB=ON PLU=ON ASPARTIC ACID/CN  
L20 5 SEA FILE=REGISTRY ABB=ON PLU=ON L9 AND L18  
L21 164 SEA FILE=HCAPLUS ABB=ON PLU=ON (L7 AND L19) OR L20  
L26 STR



Biotin

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RSPEC 1  
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

c9/982,265

February 12, 2003

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L2 942 SEA FILE=HCAPLUS ABB=ON PLU=ON LYME DISEASE+OLD/CT  
 L4 1881 SEA FILE=HCAPLUS ABB=ON PLU=ON BORRELIA BURGDORFERI  
 L5 1640 SEA FILE=HCAPLUS ABB=ON PLU=ON BORRELIA BURGDORFERI/CT  
 L6 2082 SEA FILE=HCAPLUS ABB=ON PLU=ON L2 OR L4 OR L5  
 L7 1 SEA FILE=REGISTRY ABB=ON PLU=ON POLYETHYLENE GLYCOL/CN  
 L9 31215 SEA FILE=REGISTRY ABB=ON PLU=ON 107-21-1/CRN  
 L18 961 SEA FILE=REGISTRY ABB=ON PLU=ON (101247-29-4/CRN OR 103932-89  
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 L21 164 SEA FILE=HCAPLUS ABB=ON PLU=ON (L7 AND L19) OR L20  
 L22 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 AND L6

Compounds w/  
PEG as component

Compounds with  
aspartic acid  
or derivatives as  
a component

Considered.  
03/06/03  
MSC

=&gt; d ibib abs hitind hitstr 1-2

L22 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2003 ACS  
 ACCESSION NUMBER: 2002:595415 HCAPLUS  
 DOCUMENT NUMBER: 137:137266  
 TITLE: Immunological test kit with **Borrelia**  
**burgdorferi** epitope  
 INVENTOR(S): Qiu, Bo; Stein, Stanley; Zhang, Guobao; Sigal,  
 Leonard; Brunner, Michael; Katz, Michael  
 PATENT ASSIGNEE(S): USA  
 SOURCE: U.S. Pat. Appl. Publ., 14 pp.